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10/763,087	01/22/2004	Alexander G. MacInnis	17403US05	6408

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EXAMINER

HASSAN, AURANGZEB

ART UNIT	PAPER NUMBER
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2182

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/763,087

Applicant(s)

MACINNIS ET AL.

Examiner

Aurangzeb Hassan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 April 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The claim limitations recite at least two counter configured to produce various time periods however looking at the specification pages 119 – 132 and figures 32 – 36 best represent the current invention as claimed. There is no explicit recitation of a counter in reference to the currently claimed invention. Note no new matter can be entered in the specification.

2. In order to expedite a complete examination of the instant application the Examiner will accordingly best interpret the two counters to merely represent different wording for the real time scheduling performed by the arbiter as seen on page 120.

Clarification / Correction required.

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422

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F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 1 – 2 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable claims 1 – 2 of U. S. Patent No. 6,721,837, claims 1 – 1, 3 of U. S. Patent No. 6,189,064, claims 1 – 4 of U. S. Patent No. 7,209,992.

In light of the objection to the specification above the Examiner has interpreted the at least two counters to represent the real-time scheduling mention on page 120 of the current application.

Current Application	US Patent No. 6,189,064	US Patent No. 6,721,837	US Patent No. 7,209,992
Claim 1	1, 3	1	1
Claim 2	1, 3	1,2	1,4

Although the conflicting claims are not identical, they are not patentably distinct from each other despite different wordings of the time scheduling features, they teach

precluding a device or high priority device from accessing the memory, which represents the preventative measures in the current application.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1 and 2 are rejected under 35 U.S.C. 102(e) as being anticipated by Christiansen et al. (US Patent Number 5,787,264 hereinafter "Christiansen").

7. As per claims 1 and 2, Christiansen teaches a method for arbitrating access by a scheduling apparatus (arbiter 22, figure 1) that provides an interface between a memory (20, figure 2) and at least two devices (plurality of device communicate over bus 12, figure 1), the scheduling apparatus including a memory request arbiter configured to control access to the memory (memory controller 18, figure 2), wherein the memory request arbiter arbitrates access to the memory for different devices having different priorities, at least two counters coupled to the memory request arbiter, wherein each counter is associated with at least a first particular device of the at least two devices,

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and wherein at least one of the at least two counters is configured to produce various time-periods (in light of specification of current application counter is a different term for real-time scheduling), wherein during such time-periods the arbiter prevents the first device from accessing the memory (figure 5), wherein the scheduling apparatus provides scheduling of tasks, at least one of the tasks not inherently having a pre-determined periodic behavior (tasks are assigned real-time scheduling, not inherent, figure 3); and wherein the scheduling apparatus is capable of arbitrating access to at least one device that is sensitive to latency, the method comprising:

producing at least one time signal, the at least one time-signal defining a time-period by a particular one of the at least two counters (as related to scheduling: predetermined time period 516, figure 5, which is directly analogous to the timing mechanism of the current application, see note below); and selectively preventing the first device associated with the particular one of the at least two counters from accessing the memory during the time-period (delaying constitutes preventing access to the system bus to the memory for the device by a predetermined period of time, column 6, lines 45 – 59 and figure 5).

(As per higher priority device of Claim 2, higher priority device suspended, 520, figure 5)

In light of the objection to the specification above the Examiner makes note that pages 119 – 132 of the specification and figures 32 – 36 are best understood to represent the current invention as claimed. In regards to claim limitations necessitating a counter the specification has **not specifically cited a counter** but in fact a **real-time scheduling**

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mechanism and therefore the current claim limitations are rejected accordingly as Christiansen utilizes the same multiple timing mechanism to prevent access to memory.

The Examiner further notes that the scheduling apparatus of Christiansen is "capable" of arbitrating access to latency sensitive devices and no teachings in Christiansen stipulate that the "capable" steps of the claim limitations cannot be accomplished by the prior art. There is nothing in the scheduling apparatus to inhibit its ability to arbitrate access to a latency sensitive device. Furthermore if the device is based on priority it is latency sensitive

Response to Arguments

8. Applicant's arguments filed 4/10/2007 have been fully considered but they are not persuasive. Applicant argues that Christiansen does not teach the newly amended claim limitations including selectively preventing a (higher priority) device associated with a particular one of the at least two counters from accessing the memory during a time-period.

9. As per the Applicant's arguments, the Examiner respectfully disagrees. As for the "at least two counters", in light of the specification pages 119 – 132 and figure 32 – 36 which best represent arbitration of memory access, it is understood by the Examiner that they are merely different wording for the real-time scheduling arbitration. It is unclear of the Applicant distinguishing counter as compared to the scheduler.

Christiansen teaches a scheduling predetermined time period, 516, figure 5, which has

arbitration characteristics in blocking out a (higher-priority) device. Clearly one of ordinary skill would recognize that Christiansen teaches a real-time scheduling mechanism with memory access arbitration (column 6, lines 45 – 59).

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aurangzeb Hassan whose telephone number is (571) 272-8625. The examiner can normally be reached on Monday - Friday 9 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Huynh can be reached on (571) 272-4147. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AH



KIM HUYNH
SUPERVISORY PATENT EXAMINER

6/25/07